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The synthesis of α -phenylparaconic acid. M. P. Geybels. J. Gen. Chem. (U. S. S. R.) 7, 989-2, 1947.
A Claisen condensation of phenylsuccinic acid and HCO_2Et gives $\text{EtO}_2\text{CCHPhCH}(\text{CHO})\text{CO}_2\text{Et}$ which is reduced with active Al to $\text{PhCH}(\text{CO}_2\text{Et})\text{CH}_2\text{CH}_2\text{OH}\text{CO}_2\text{Et}$. When this is distd., it splits out EtOH and gives a mixt. of 2 stereoisomers of *Et* α -phenylparaconates, a solid m. 92° and a liquid b. 195° , n_D^{20} 1.5178, d_4^{20} 1.1788. The solid ester is unstable and when heated to 200° or sapond., it changes to the liquid. Hence, sapon. of either ester yields the same α -phenylparaconic acid m. 134° . If H_2O is present in the soln. from which the acid sep., it contains 1/2 mol. of H_2O of crystn. and m. 102° . H. M. I.

C-11

PROCESSES AND PROPERTIES

/0

COMMON ELEMENTS
OPEN
WATERWAYS INDEX

Alkyl sulfate of N,N'-alkyldi-9-acridylureas M. P.
Gerchuck and M. M. Katsnel'son. Russ. 52,430, Jan. 31,
1938. A soln. of 9-aminoacridine or one of its derivs. in an
org. solvent is heated with chlorocarbonic ester; the 9-
acridylurethan formed is filtered off and heated in the
same solvent with 9-aminoacridine or a deriv. The N,
N'-di-9-acridylurea formed is treated with a dialkyl
sulfate.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION
FROM SWEDISH

SERIES "A" SUBSERIES HIP DIV ONE BELLESTON

REEL 63-470 REEL 63-470

[illegible]

| 1ST AND 2ND PAGES | | 3RD AND 4TH PAGES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| PROCESS AND PROPERTIES INDEX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>CA 17</p> <p>The synthesis of new chemotherapeutic pyroplasmocidal preparations. I. Syntheses in the series of alkylamine-phenyl substituted ureas. M. P. Gershen, J. Gen. Chem. (U. S. S. R.) 11, 731-8 (1941). When $\text{Me}_2\text{NC}_6\text{H}_4\text{NH}_2$ and urea are fused at 148°, they form $(p\text{-Me}_2\text{NC}_6\text{H}_4\text{NH})_2\text{CO}$ (I), m. $253-5^\circ$ (HCl salt, m. 242°; Me_2SO salt, m. 218°). I can also be prepd. from $\text{Me}_2\text{NC}_6\text{H}_4\text{NH}_2$ and $\text{Me}_2\text{NC}_6\text{H}_4\text{NHCO}_2\text{Et}$ at $180-40^\circ$. It is effective against blood parasites. The Et analog of I, m. $218-20^\circ$ (HCl salt, m. $240-1^\circ$). PhNH_2 and PhBr react at $80-90^\circ$ and are then heated at $110-20^\circ$ for 4 hrs. to give PhNHPh. When this is refluxed for 8 hrs. at 155°, with dropwise addition of PhBr, it gives PhNPh_2 in better yields than when PhI is used. $\text{Pr}_2\text{NC}_6\text{H}_4\text{NH}_2$ is best prepd. by reduction of $\text{Pr}_2\text{NC}_6\text{H}_4\text{NO}$ with Zn and HCl. It reacts with PhOH and urea to give N,N'-di(<i>p</i>-diisopropylaminophenyl)urea, m. 180° (HCl salt, m. $224-5^\circ$; Me_2SO salt, m. 223°). Nitration of I by HNO_3 in HOAc gives a compd. which is probably N,N'-di(<i>p</i>-dimethylamino-3-nitrophenyl)urea, m. $188-9^\circ$ (Me_2SO salt, m. $177-8^\circ$). H. M. Leicester</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METALLURGICAL LITERATURE CLASSIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ESTABLISHED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th><th>21</th><th>22</th><th>23</th><th>24</th><th>25</th><th>26</th><th>27</th><th>28</th><th>29</th><th>30</th><th>31</th><th>32</th><th>33</th><th>34</th><th>35</th><th>36</th><th>37</th><th>38</th><th>39</th><th>40</th><th>41</th><th>42</th><th>43</th><th>44</th><th>45</th><th>46</th><th>47</th><th>48</th><th>49</th><th>50</th><th>51</th><th>52</th><th>53</th><th>54</th><th>55</th><th>56</th><th>57</th><th>58</th><th>59</th><th>60</th><th>61</th><th>62</th><th>63</th><th>64</th><th>65</th><th>66</th><th>67</th><th>68</th><th>69</th><th>70</th><th>71</th><th>72</th><th>73</th><th>74</th><th>75</th><th>76</th><th>77</th><th>78</th><th>79</th><th>80</th><th>81</th><th>82</th><th>83</th><th>84</th><th>85</th><th>86</th><th>87</th><th>88</th><th>89</th><th>90</th><th>91</th><th>92</th><th>93</th><th>94</th><th>95</th><th>96</th><th>97</th><th>98</th><th>99</th><th>00</th> </tr> </thead> </table> | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | | | | |

| PROCEDURE AND PROPERTIES NOTES | |
|--|--|
| CA | <p><i>N,N'</i>-Bis(4-diisopropylaminophenyl)urea methyl methosulfate. M. F. Gerchuk. U.S.S.R. 66,043, March 31, 1950. Addn. to U.S.S.R. 62,444. <i>N,N'</i>-Bis(4-diisopropylaminophenyl)urea, in benzene, nitrobenzene, or other org. solvent, is treated with Me₂SO. The product is valuable for combating blood parasites. M. Hosh</p> |
| <p>17</p> | |
| <p>AD-1554 METALLURGICAL LITERATURE CLASSIFICATION</p> | |
| <p>1000 2000 3000 4000 5000 6000 7000 8000 9000</p> | <p>1000 2000 3000 4000 5000 6000 7000 8000 9000</p> |

| 1ST AND 4TH QUANT | | PROCEDURES AND PROPERTIES INDEX | | 1ST AND 4TH QUANT | |
|--|--|---|--|----------------------------|--|
| CA | | <p>Sulfonamide. M. P. Gerchuk. U.S.S.R. 68,785, June 30, 1947. Addn. to U.S.S.R. 68,784 (cf. preceding intr.). $(p-H_2NBO_2C_6H_4NH)_2CO$ is caused to react at an elevated temp. with aniline. The resulting products are spd. as usual, and $CO(NHPh)_2$ is then converted to $(p-CISO_2C_6H_4NH)_2CO$. The latter is then converted into the p,p'-disulfonamide for further utilization in the process.</p> <p>M. Hosh</p> | | 76 | |
| <p>ASAC-15.2 METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | |
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| 1 2 3 4 5 6 7 8 9 10 11 12 | | 1 2 3 4 5 6 7 8 9 10 11 12 | | 1 2 3 4 5 6 7 8 9 10 11 12 | |

GERCHUK, M. P.

"Synthesis of New Piroplasmocide Preparations in a Series of Urea Derivatives,"
Sub. 13 Mar 47, Inst of Organic Chemistry, Acad Sci USSR.

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum.No.457, 18 Apr 55

GERCHUK, M.P.; LIVSHITS, D.A.; TAITB, S.Z.

Exchange reactions of urea derivatives. Voprosy Anilinokrasochnoy Khim.,
Trudy VIII Soveshchaniya Khim. i Tekh. (Trans. 8th Aniline Dye Conf.) '50,
35-42. (MLRA 4:4)
(CA 47 no.21:11146 '53)

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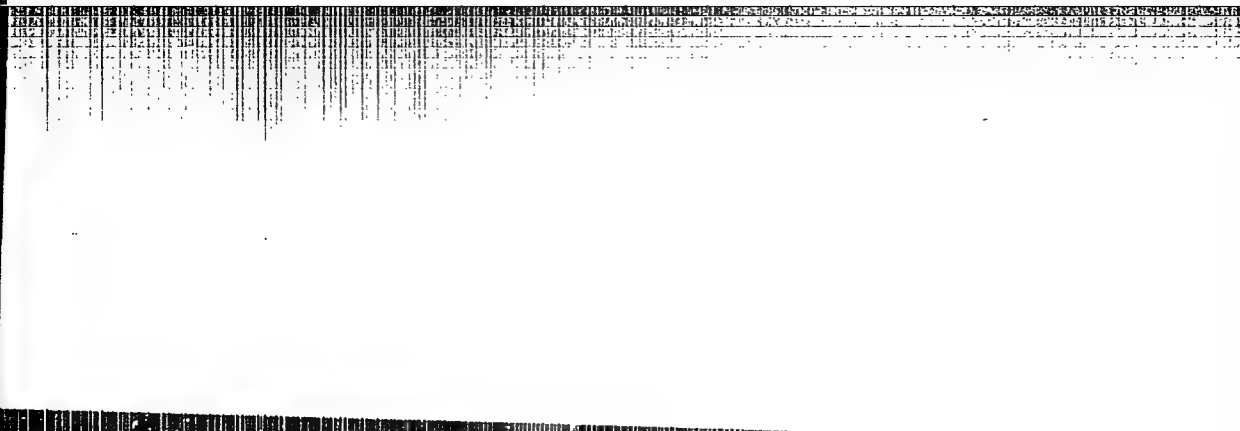
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GERCHUK, M. P.

"Reactions of heterocyclic amines with urea. II. Reactions of some amino derivatives of thiazole and quinoline with urea." (p. 917)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1950, Vol. 20, No. 5.

CA

Exchange reactions in the series of urea derivatives.
M. P. Gershtik, D. A. Livshits, and S. Z. Talis (Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshch. Khim.* (J. Gen. Chem.) 20, 924-30 (1950). — Exchange reactions of the type $RNHCONHR' + 2R''NH_2 \rightarrow R'NHCONHR'' + 2RNH_2$ were investigated. The higher the basicity of the reacting amine, the greater is the extent of reaction.
• Heating 0.5 g. 1,3-bis(4-methyl-2-thiazolyl)urea with 10 ml. $PhNH_2$, 30 min. to 180° gave $CO(NHPh)$, (1), m. 235-6°. 1-(4-Methyl-2-thiazolyl)urea gave the same product. Refluxing 1,3-di-2-pyridylurea with excess urea 40 min. gave 2-aminopyridine and 1; I also formed when 1,3-di-6-quinolylurea was used (6-aminoquinoline was the by-product) or when 1,3-bis(2-methoxy-6-chloro-9-acridyl)urea was used (2-methoxy-6-chloro-9-aminoadridine, m. 274°, is the by-product). Similar heating (100°) of I with 2-amino-4-methylthiazole gave 1,3-bis-(4-methyl-2-thiazolyl)urea, m. 264-5°. Heating I with 2 moles $PhCH_2NH_2$, 4 hrs. at 180° gave 100% 1,3-di-benzylurea, m. 162-5° (from EtOH); $p-H_2NC_6H_4NMe_2$ (in turpentine) gave 77%; N,N' -bis(p-dimethylamino-phenyl)urea, m. 236-41° (from $PhNO_2$); $p-H_2NC_6H_4NH_2$ (in PhOH) likewise gave 43.9% 1,3-bis(p-dipropyl-aminophenyl)urea, m.p. not given; 2-aminopyridine (also in PhOH) gave 16% 1-phenyl-3(2-pyridyl)urea, m. 186-7° (from EtOH), sepd. from the starting material by extra. with 1:1 HCl; 6-aminoquinoline gave no reaction; the result was similar with p-nitroaniline although a small amt. of 3 unidentified substances, m. 187-9°, m. 204°, and m. above 270°, was isolated. O. M. K.

GERCHUK,

Work on the synthesization of novoplasmin. Veterinaria, Vol 27, No 2,
pp 61-63, 1950.

GERCHUK, M. P.

USSR/Medicine - Haemosporidiosis
(Veterinary) May 51

"Haemosporidin (IP₂)," Prof M. P. Gerchuk, Dr Chem
Sci, A. I. Shmulevich, Cand Vet Sci, Ministry of
Agriculture USSR

"Veterinariya" Vol XXVIII, No 5, pp 63, 64

Gerchuk points out drawbacks of trypan blue and
trypanflavin in treatment of haemosporidiosis and
states that the piroplasmocidal agent Haemosporidin
(I) synthesized by him represents improvement.
Shmulevich says that I is effective against haemo-
sporidiosis of sheep and piroplasmosis of horses

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182781

USSR/Medicine - Haemosporidiosis
(Veterinary) (Contd) May 51

and cattle, ineffective against tayloriosis
/Meyleriosis/ of cattle, and less effective
than piroplasma in or trypanflavin against fran-
ciseiosis. Data on action of I in equine
malaria are contradictory. Vet Sec of Zootech
Council, Main Adm of Animal Husbandry, Min of
Agr USSR, admitted I for use as therapeutic
agent against piroplasmosis and babesiosis of
cattle and piroplasmosis of horses.

LC

182781

GERCHUK, M.P.
EREXAYEV, V.P.; GERCHUK, M.P.

Synthesis of preserving, disinfecting, and wetting surface-active substances from a group of quaternary ammonium salts. Khim.nauka
1 prom. 2 no.5:666 '57. (MIRA 10:12)

1. Institut narodnogo khozyaystva im. G.V. Plekhanova.
(Bactericides) (Surface-active agents)
(Ammonium compounds, Substituted)

GERCHUK, M.P., doktor khimicheskikh nauk

Chemistry in medicine. Zdorov'e 3 no.2:1-3 F '57.
(CHEMISTRY, MEDICAL AND PHARMACEUTICAL)

(MIRA 10:3)

GERCHUK, M.P.; IVANOVA, V.M.

Synthesis of nordihydro-guaiaretic acid and its use to protect edible fats against rancidity. Khim.nauk i prom. 3 no.5:685-687 '58. (MIRA 11:11)

1. Moskovskiy institut narodnogo khozyaystva im. G.V. Plekhanova. (Guaiaretic acid) (Oils and fats, Edible--Storage)

GERCHUK, M. doktor khim. nauk; IVANOVA, V., assistant

Use of chemicals for the protection of food fats against becoming
rancid. Sov. torg. no. 5:40-42 My '58. (MIRA 11:5)
(Oils and fats, Edible--Preservation)

GERCHUK, M.P., doktor khim. nauk; IVANOVA, V.M.

~~Synthesis~~ Synthesis of dihydronorguaiaratic acid and its use as an
antioxidant in edible fats. Masl.-zhir. prom. 24 no. 6:44-45 '53.
(MIRA 11:7)

1. Moskovskiy institut narodnogo khozyaystva imeni G.V.Plekhanova.
(Pyrocatechol)
(Oils and fats, Edible)
(Antioxidants)

AUTHORS: Ridel', N. V., Gerchuk, M. P. 79-28-5-42/69

TITLE: On the ^{Transamination} Reactions of the Amides of Carboxylic Acids
(O reaktsiyakh pereamidirovaniya amidov karbonovykh kislot)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol 28, Nr 5,
pp. 1306 - 1309, (USSR)

ABSTRACT: The investigation of the reversible reaction in the re-amidation of carboxylic acid amides taking place according to the equation:

$$RCONHR' + R''NH_2 \rightleftharpoons RCONHR'' + R'NH_2$$
 is based on the work of reference 1 in which it is shown that in the conversion of the substituted urea compounds with primary amines a regrouping of the amide groups takes place which leads to the formation of a new substituted urea and of a new amine:

$$2 N H_2 R' + R'' H N C O N H R'' \rightleftharpoons 2 N H_2 R'' + R' H N C O N H R'.$$

Card 1/3

The authors investigated 7 pairs of similar reactions. In the present work it was of interest to carry out the re-amidation of carboxylic acid amides. In this the following was found:
 In the conversion of acetamide with chlorine hydrates of aro-

79-28-5-42/69

On the ^{Transamination} Reactions of the Amides of Carboxylic Acids

matic amines the corresponding acylamide and ammonia form. On heating the chlorine hydrates of primary aromatic amines with acylarylamides a new acylarylamide and a new aromatic amine result. Individual re-amidation reactions can be used in the industrial production of some amines. In the production of p-nitroaniline the authors recommend to saponify the p-nitroacetanilide with aniline and not, as has hitherto been done, with sulfuric acid. In this at the same time the final product p-nitroaniline and the initial product acetanilide are formed, which again serve in the production cycle for the production of p-nitroaniline. In the same way the p-acetylamino-benzenesulfamide had to be saponified with aniline in the production of sulfanilamide; this leads to the simultaneous formation of sulfanilamide and the initial substance, acetanilide. There are 4 references, 1 of which is Soviet.

ASSOCIATION: Moskovskiy institut narodnogo khozyaystva (Moscow Institute for National Economy)

Card 2/3

79-28-5-42/69

On the Transamina^{tion}/ Reactions of the Amides of Carboxylic Acids

ASSOCIATION: Moskovskiy institut narodnogo khozyaystva (Moscow Institute of National Economy)

SUBMITTED: December 12, 1957

Card 3/3

AUTHORS: Frakayev, V.P. and Gerchuk, M.P. SOV/EC-59-1-43/44

TITLE: Synthesis of Quadruple Ammonium Salts From the Broad Fraction of High-Molecular Fat Alcohols Obtained by the Oxidation of Oil Paraffin Hydrocarbons (Sintez chetvertichnykh ammoniyevykh soley iz shirokoy fraktsii vysokomolekulyarnykh zhirnykh spir-tov, poluchayemykh okisleniyem neftyanykh parafinovykh ugle-vodorodov)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 235-237 (USSR)

ABSTRACT: The authors developed a practical method for obtaining quadruple ammonium salts which makes it possible to produce them in large-scale mass. They used the broad fraction of the high-molecular fat alcohols obtained by the catalytic oxidation of paraffin hydrocarbons as an initial raw material according to the method developed in the Institut nefti AN SSSR (Petroleum Institute of the AS USSR) by Bashkirov with collaborators [Ref. 7]. It was found out that the diethylalkylbenzyl-ammonium and alkylpyridine salts obtained in this way possess bactericide, bacteriostatic, fungicide, wetting, surface-active and preserving properties. There are 2 tables, and 24 references, 9 of which are Soviet, 3 German, 3 French, 6 English and 3 American.

Card 1/2

SOV/80-59-1-43/44

Synthesis of Quadruple Ammonium Salts From the Broad Fraction of High-Molecular
Fat Alcohols Obtained by the Oxidation of Oil Paraffin Hydrocarbons

ASSOCIATION: Moskovskiy institut narodnogo khozyaystva imeni G.V. Plekhanova
(Moscow Institute of National Economy imeni G.V. Plekhanov)

SUBMITTED: April 15, 1957

Card 2/2

GERCHUK, M.P., doktor khim.nauk; EREKAYEV, V.P.

Synthesis of cationic quaternary ammonium salts from alcohols
produced by the oxidation of paraffin hydrocarbons. Masl.-zhir.
prom. 25 no.4:19-21 '59. (MIRA 12:6)

1. Institut narodnogo khozyaystva imeni G.V.Plekhanova.
(Surface active agents) (Ammonium compounds)
(Paraffins)

GJERCHUK, M.P., prof.

Antioxidants in the food industry. Zhur. VKHO 5 no. 4:395-402 '60.
(MIRA 13:12)

(Antioxidants)

(Food industry)

1961-1962, 1963; GORDON, N.P.

quaternary ammonium salts. Izv.vys.uchob.zav.;khim.i khim.tekh.
4 no.3:486-491 '61. (MIRA 14:10)

I. Nockovskiy institut narodnogo khozyaystva imeni Plekhanova,
kafedra obshchey khimii,
(Ammonium compounds as disinfectants)

GHERCIUK, M. P. [Gorchuk, M. P.]

The antioxidantizing agents in the food industry. Analele chimie 16
no.1:159-174 Ja-Mar '61. (KEAI 10:9)

(Food)

GERCHUK, M.P., prof.

Synthesis and use of chemiotherapeutic preparations for the treatment
and prophylaxis of piroplasmosis in farm animals. Zhur. VKHO 8 no.61
668-670 '63. (MIRA'17s2)

GERCHUK, Ya. P. Cand. Tech. Sci.

Dissertation: "Regularities in Formation of Overstocking Trend in Conveyer Mass Production of Machines." Moscow Inst of Engineering Economics ineni Sergo Ordzhonikidze, 30 May 47.

SO: Vechernyaya Moskva, May, 1947 (Project #17836)

Cand. Technical Sci.

"Reply to Begun's Article 'Problems of new technology,'" Avtogen. Delo, No. 7, 1949.

GERCHUK, Y. P.

Operativnoe planirovanie v kuznechnykh tsekhakh. Moskva, Mashgiz, 1950.
113 p. (Biblioteka mastera)

(Planning forge shop operations.)

DLC: Unclass.

SO: Manufacturing and Mechanical Engineering in the Soviet Union,
Library of Congress, 1953.

GERCHUK, Ya.P.

GERCHUK, Ya.P.

Methodology of establishing norms for metal consumption in
foundry work. Lit-proizv. no.4:31-3 of cover J1 '54. (MLRA 7:7)
(Founding)

GERCHUK, Ya. F.

KATSRIBOGEN, Boris Yakovlevich [deceased]; KREPISH, P.V., kand.ekon.nauk,
dota., retsenzent; SOCHINSKIY, A.R., inzh., retsenzent; GERCHUK,
Ya.P., kand.ekon.nauk, red.; GOBOLYUBOVA, I.Yu., red.izd-va
[deceased]; GKRASINOVA, Ye.S., tekhn.red.

[Operational schedule planning in machinery manufacturing plants]
Operativno-kalendaroe planirovanie na mashinostroitel'nom zavode.
Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1958. 182p.
(Machinery industry) (MIRA 11:5)

25(5)

PHASE I BOOK EXPLOITATION

SOV/1212

Potochnyye metody proizvodstva v seriynom mashinostroyenii i priborostroyenii (Assembly-line Methods in Serial Manufacturing of Machinery and Tools) Moscow, Mashgiz, 1958. 325 p. 3,500 copies printed.

Eds.: Berman, A.G., Candidate of Economic Sciences, and Neymark, A.I., Candidate of Technical Sciences; Eds. of Publishing House: Varkovetskaya, A.I., and Chfas, M.L.; Tech. Ed.: Sokolova, L.V.; Managing Ed. for Literature on Technical Machine Building (Leningrad Division, Mashgiz): Naumov, Ye. P.

PURPOSE: This book is intended for production managers, dispatchers, and engineering personnel engaged in the production of machinery and instruments. It may also be useful to scientific workers, planning personnel, and vtuz students specializing in industrial engineering.

Card. 1/8

Assembly-line Methods in Serial Manufacturing (Cont.) SOV/1212

COVERAGE: The book contains background material for the 1958 Conference on Methods of Line Production scheduled under the auspices of the Committee on Production Organization of the Leningrad regional administration NTO of the machinery manufacturing industry. The Committee's recommendation for this Conference was prompted by the inadequate development of line production methods and techniques in Leningrad plants specializing in series [large-scale] production of machinery and instruments. Theoretical studies based on Soviet industrial practices are presented in Part I of this book. Part II discusses the introduction and development of line production methods in Leningrad plants while Part III reviews foreign literature and some of the more pertinent problems of line production as seen by foreign authors. There are no references.

TABLE OF CONTENTS:

Foreword

3

Card 2/ 8

Assembly-line Methods in Serial Manufacturing (Cont.) SOV/1212

PART ONE. BASIC PROBLEMS OF CALCULATING AND
ORGANIZING LINE PRODUCTION IN SERIES [LOT]
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Assembly-Line Methods in Serial Manufacturing (Cont.) SOV/1212

PART THREE. FOREIGN EXPERIENCE IN ORGANIZING LINE
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AVAILABLE: Library of Congress

11/200
3-11-60

Card 8/8

AUTHOR:

Gorchuk, Ya. V.
A.B. (only initials given)

2-58-3-15/17

TITLE:

In the Statistical Section of the Moscow House of Scientists
of the USSR Academy of Sciences (V statisticheskoy sekcii
Moskovskogo doma uchënykh Akademii nauk SSSR)

PERIODICAL:

Vestnik Statistiki, 1958, Nr 3, pp 87-88 (USSR)

ABSTRACT:

The article is a report on a paper entitled "Linear Programming - a New Method of Finding the Optimal Solution of Economic Problems", read in January 1958 to the section by Ya. P. Gorchuk. The purpose and method of linear programming are briefly described and the claim is made that the mathematical method of determining the optimum allocation of economic resources now known as "linear programming" was first proposed in 1939 by the Leningrad mathematician, Professor L. V. Kantorovich, who published a pamphlet on it through the Leningrad University entitled "Mathematical Methods of Organizing and Planning Production".

Card 1/1

Герасимук, Я. Я.

- 2) **2 A** **Inventory** - The Mathematical Equations of Inventory Management
 - 3) **2 B** **Mathematical Models** - Optimal Planning and Economic Indicators
 - 4) **2 C** **Mathematical Models** - Mathematical Analysis of the Dynamic Equilibrium of Production
 - 5) **2 D** **Mathematical Models** - Mathematical Analysis of Input and Proportions in the National Income (Circular Flow)
 - 6) **2 E** **Mathematical Models** - Input-Output Models
 - 7) **2 F** **Mathematical Models** - Input-Output Models in Regional Development
 - 8) **2 G** **Mathematical Models** - Mathematical [sic] and Dynamic Models of a Socialist National Income Balance in Regional Income
- Reading Section** - 20 December 1959, 1000 hours
22. The Theory of Linear Programming
- 1) **1 A** **Mathematical Models** - Review of Methods for the Solution of Linear Programming Problems
 - 2) **1 B** **Mathematical Models** - Algorithmic Solutions of Transport Problems Through Approximation by Means of Hypothetically Optimal Flows
 - 3) **1 C** **Mathematical Models** - The Theory of Linear Programming
 - 4) **1 D** **Mathematical Models** - The Application for a Joint of Re-organizing the National Income
 - 5) **1 E** **Mathematical Models** - The Application for a Joint of Re-organizing the National Income
 - 6) **1 F** **Mathematical Models** - A Practical Demonstration of Kantorovich's Cancelling Multipliers
 - 7) **1 G** **Mathematical Models** - Linear Programming Methods and Material Supply
- Reading Section** - 16 December 1959, 1000 hours
23. Economic Models and Dynamic Programming
- 1) **1 A** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 2) **1 B** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 3) **1 C** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 4) **1 D** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 5) **1 E** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 6) **1 F** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
 - 7) **1 G** **Mathematical Models** - Mathematical Models of the National Economy in Economic Equilibrium and a Critics Review
- Reading Section** - 16 December 1959, 1600 hours
24. The Transportation Problem
- 1) **1 A** **Mathematical Models** - Finding the Most Suitable Assignment of Various Types of Fleet Vessels to Lines
 - 2) **1 B** **Mathematical Models** - Mathematical Methods in Economic Research on the Optimal Specialization of Projects
 - 3) **1 C** **Mathematical Models** - The Application of Linear Programming to Air Transport Problems

report submitted at the Soviet Conference on Problems in the Application of Mathematical Methods in Economic Research, Leningrad, 1951 January 19-20.

S/030/60/000/007/011/011
B016/B058

AUTHORS: Gerchuk, Ya. P., Candidate of Economic Sciences,
Mints, Ye. L., Candidate of Economic Sciences

TITLE: Mathematical Methods in Economic Research¹⁴ and in Planning⁷⁴


PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 7, pp. 108-111

TEXT: The Otdeleniye ekonomicheskikh, filosofskikh i pravovykh nauk Akademii nauk SSSR (Department of Economic, Philosophical, and Legal Sciences of the Academy of Sciences USSR) jointly with the Sibirskoye otdeleniye (Siberian Department) of the Academy held a scientific conference in Moscow from April 4 to 8, 1960. It concerned the subject mentioned in the title. Scientists, economists, mathematicians, statisticians, and engineers attended. In the introduction, V.S.Nemchinov mentioned that the use of mathematical methods and electronic computers for solving many topical problems of planning and economic practice has lately caused great interest. These methods and machines may considerably raise the level of socialist planning. The lecturer pleaded to transform Soviet economics into an exact science studying also quantitative rules.

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Mathematical Methods in Economic Research and
in Planning

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B016/B058

The practice feels an urgent need for elaborating sufficiently detailed economic models comprising various trends of socialist economy and permitting a mathematical solution of problems of national economy. 
I. S. Bruk, Director of the Institut elektronnykh upravlyayushchikh mashin Akademii nauk SSSR (Institute of Electronic Control Machinery of the Academy of Sciences USSR) discussed several practical problems in this field. L. V. Kantorovich dealt with the application of mathematical methods for the justification and selection of optimum plan solutions. According to V. V. Novozhilov, the next speaker, the errors of economic calculations based on mathematics are due to the incongruity between the mathematical means used and the planning problems. The application of the balance-chart method of planning the national economy was the subject of a lecture by P. S. Mstislavskiy. 23 persons participated in the discussion. They stressed the importance of the subject mentioned in the title for socialist economics. The thesis by L. V. Kantorovich was most disputed. He has put up the conception of "objectively conditioned estimates". A. Ya. Boyarskiy, A. Kats, and others raised their objections against it. A. N. Kolmogorov discussed several topical problems of optimum planning. The importance of determining the criteria

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in Planning

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B016/B058

of optimum conditions was underlined by A. A. Dorodnitsyn. A.G. Aganbigyan explained the problem of elaborating methods of optimum planning for the solution not only of local production problems, but also of general problems of economic planning, which at present cannot be solved by the methods of linear programming. Ya. A. Kronrod stated that the coordination between mathematics and economy has raised several principal problems, so that one may speak of the development of a new science. The conference was divided into six sections which dealt with a total of 54 lectures. The most important problem is the elaboration of such economic-mathematical models as make it possible to conduct plan calculations, as well as to correct the plans later during their carrying out. Economic-mathematical branch models are also necessary. The elaboration of models reflecting the distribution of the national income is said to be of great importance. The problems of the methodology of drawing up such balances were discussed in the section of inter-branch balances. A uniform nomenclature is to be elaborated. The Tsentral'noye statisticheskoye upravleniye pri Sovete Ministrov SSSR (Central Statistical Administration at the Council of Ministers of the USSR) has already started to draw up the inter-branch balances

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in Planning

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B016/B058

usable for this purpose. The section of linear programming dealt with problems of the application of mathematical methods for drawing up optimum plans. A. N. Nesmeyanov, President of the Academy of Sciences USSR, spoke at the final plenary session. He stated that the contact between economics and mathematics has important scientific consequences. It is therefore necessary that the contacts taken up between mathematicians and economists should be developed at the pace dictated by the development of national economy. The conference adopted a plan for the coordination of scientific studies in the field under discussion. The network of the scientific institutions concerned is to be widened.

Card 4/4

GAER, Yaroslav [Habr, Jaroslav], ekonomist; DAN'KO, Yu.T. [translator];
GERCHUK, Ya.P., red.; SEMENOVA, N.Kh., red.; MELEST'YEV, A.M.,
tekhn.red.

[Linear programming; manual for economists] Lineinnoe programmiro-
vanie; posobie dlia ekonomistov. Pod red. IA.P.Gerchuka. Moskva,
Gosstatizdat TsSU SSSR, 1960. 134 p. (MIRA 14:3)
(Linear programming)

S/044/62/000/004/094/099
C111/C222

AUTHOR: Gerguk, Ya.P.

TITLE: Linear programming in the organization and planning of the
smelting industry

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 49,
abstract 4V311. ("Matem. metody i schetn. tekhn. v organiz.
i planirovanii proiz-va na metallurg. predpriyatii". M.,
Metallurgizdat, 1961, 21-27) ✓

TEXT: This is a non-mathematical survey report in which the object
and some applications of linear programming in metallurgy are described
(mentioned are: the problem of the composition of the charge, the problem
of optimal employment of the equipment, transportation problem, and the
problem of rational die casting). There are small inaccuracies.

[Abstracter's note: Complete translation.]

Card 1/1

KORBUT, A.A., mladshiy nauchnyy sotr.; NEMCHINOV, V.S., akademik, otv. red.; KANTOROVICH, L.V., otv. red. тома; GERCHUK, Ya.P., kand. ekon. nauk, dotsent, otv. red. тома; RUBINSHTEYN, G.Sh., kand. fiz.-matem. nauk, dotsent, otv. red. тома; SEREBROVSKIY, L.A., red. izd-va; VOLKOVA, V.V., tekhn. red.

[Works of the Scientific Conference on the Use of Mathematical Methods in Economic Planning and Research] Trudy Nauchnogo soveshchaniia o primenii matematicheskikh metodov v ekonomicheskikh issledovaniakh i planirovanii. 1960. Moskva, Izd-vo Akad. nauk SSSR. Vol.4. [Linear programming] Lineinoe programirovanie. 1961. 126 p. (MIRA 15:1)

1. Nauchnoye soveshchaniye o primeneni matematicheskikh metodov v ekonomicheskikh issledovaniakh i planirovanii. 1960.
 2. Chlen-korrespondent AN SSSR (for Kantorovich). 3. Moskovskiy institut stali (for Gerchuk). 4. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A.Steklova AN SSSR (for Korbuto).
 5. Laboratoriya po primeneniyu matematicheskikh i statisticheskikh metodov v ekonomike Sibirskogo otdeleniya AN SSSR (for Rubinshteyn).
- (Linear programming) (Economics, Mathematical)

GERCHUK, Yakov Pavlovich; BIRMAN, I.Ya., red.; KONIKOV, L.A., red.
izd-va; GERASTIMOVA, Ye.S., tekhn. red.

[Program of optimum planning; linear programming] Problemy
optimal'nogo planirovaniia; lineinoe programmirovaniie. Mo-
skva, Izd-vo ekon.lit-ry, 1961. 230 p. (MIRA 15:2)
(Linear programming)

GERCHUK, Ya.P., kand.ekonomicheskikh nauk

Mechanizing the selection and grouping of information. Mekh.
i avtom. pereliv. 15 no.7:43-48 J1 '61. (MIRA 14:6)
(Information storage and retrieval system)

GERCHUK, Yakov Pavlovich, kand. ekon. nauk, propagandist ekonomiko-matematicheskikh metodov; GLYAZER, I.S., red.; SIBIRSKINA, T.S.S., mlad. red.

[Applicational limits of linear programming] Granitsy primeneniia lineinogo programmirovaniia. Moskva, Ekonomika, 1965. 71 p. (Obsuzhdaem problemy sovershenstvovaniia planirovaniia, no.10) (MIRA 18:5)

GERCHUK, Yu., *iskusstvoed*

Beauty aids work. Okhr. truda i sots. strakh. 5 no.8:17-18 Ag '62.
(MIRA 15:7)

(Machinery--Design)

MASHKOVSKIY, M.D.; Glin-Hovov, I.M.

Effect of tropaphen on the peripheral vessels. Russ. eksp. Biol.
i med. 58 no.8:69-71 Aug '64.

(SIB' 10:3)

1. Laboratoriya farmakologii zav. - chlen-korrespondent ANU SSSR
prof. M.D. Mashkovskiy) Vsesoyuznogo khimiko-farmatsevticheskogo
instituta imeni Ordzhonikidze, Moskva.

KIMRYAKOV, V.A.; GKEED, M.A.

Naturalist and animal trainer. Est. v shkole no.4:21-25 J1-Ag '56.
(MIRA 9:9)

1.Sotrudnik ugolka imeni V.L.Durova (for both).
(Durov, Vladimir Leonidovich. 1863-1934)

GMRD, M.A.

Analyzing the process of training sea lions. Yop. psikhol. 3 no.4:
102-116 JI-Ag '57. (MLBA 10:9)

1. Kul'turno-prosvetitel'nyy ugolok imeni V.L. Durova.
(Seal (Animals)) (Animals, Training of)

GERD, M.

isolate: 1st 1st 1st 1st 1st

Training. Znan.sila no.4:22-26 Ap '54.
(Animals, Training of)

(MLRA 7:5)

GERD, M.A., Cand Biol Sci -- (diss) "Analysis of
the process of training. On the problem of ^{voluntary} ~~voluntary~~
movements (Based on data from the training of sea lions)."
Mos, 1958, 14 pp (Nos Order of Lenin and Order of Labor
Red Banner State Univ im M.V. Lomonosov. Chair of Higher
Nervous Activity. Biol Soil Faculty) 150 copies. List of
author's works, p 14 (10 titles) (KL, 50-58, 122)

- 31 -

GERD, M.A.; IN'KOV, N.M.; MAZOVER, A.P.; HAZAROV, V.P.; ORLOV, A.P.;
SAKHAROV, N.A.; BABKINA, H.G., red.; GOR'KOVA, Z.D., tekhn.red.

[Principles of the raising of working dogs] Osnovy sluzhebnogo
sobakovodstva. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1958.
367 p. (MIRA 11:12)

(Dogs)

GERD, Mariya, kand. biol. nauk; OREBENEV, Andrey, vrach

Tales become a fact. Rabotnitsa 37 no.10:6-8 O '59.

(Space flight)

(MIRA 13:2)

17.2550

26900

S/025/61/000/010/001/003

D264/D304

AUTHOR: Gurovskiy, N. N. and Gerd, M. A., Scientific Associates

TITLE: In the laboratory of space flights

PERIODICAL: Nauka i zhizn', no. 10, 1961, 21 - 28

TEXT: The article describes Soviet methods of training dogs for space flight. The dogs are first accustomed to cabins in the training room and become used to continuous lighting from the illuminator of the cyclops camera. As a first stage in training, the dogs are tried out in special "cramped" cabins to test their reaction to restriction of their movements. These reactions are then used to gage the type of the dog's nervous activity and its suitability for space flight. An account of the different sorts of reaction encountered is given. In the second stage the dogs are accustomed to living in their rubber space suits and to eating from a special automatic food

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D264/D304

In the laboratory of space...

dispenser. This consists essentially of a periodically moving belt with small trays. With each periodic movement, a tray coincides with a hatch in the floor above, opening in front of the dog's forepaws. Each tray contains one feed. For space conditions a special high-calorie feed mixture containing sausage, meat, fat, groats and a great deal of water was developed in the form of a viscous jellyish mass. Such food was used for Layka in 1957 and for Belka and Strelka in 1960. It was found that dogs frequently refuse their food because they are thirsty; with their thirst even partly slaked, they will begin to eat. Before the dogs are placed in the cabin to accustom them to the food dispenser, they must, therefore, be well watered. After training, the animals are fully prepared and can stay in a cabin without moving, stand great overloads and vibrations, are not scared by noise, and can sit in all the experimental equipment needed to record the biocurrents of the heart, muscles, and brain, respiration, arterial pressure, etc. The dogs are then

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In the laboratory of space...

subjected to comprehensive physiological testing, combining the various factors that would act on them during actual space flight. This testing can last for several days. An account of a typical comprehensive physiological test is given. The authors of the article have written a book giving a more detailed account of the training of animals for space flight; the book will shortly be published by the Publishing House of the Akademiya nauk SSSR (Academy of Sciences, USSR). There are 4 figures.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences, USSR)

Card 3/3

27.2000

30888

S/025/61/000/011/002/003
D243/D302

AUTHORS: Gurovskiy, N.N. and Gerd, M.A., Scientific Workers

TITLE: Weightlessness

PERIODICAL: Nauka i zhizn', no. 11, 1961, 86-91

TEXT: The authors state that prolonged weightlessness is a major problem of space flight and discuss its effects on the animal organism with particular reference to the orbital flight of Cosmonaut G.S. Titov. They describe the interior of the cabin of Vostok-2, in particular the cosmonaut's couch, and give an account of the apparatus for automatic control of the interior conditions. Having referred to Titov's psychological state after blast-off, they describe his food and its consumption. Work capacity and efficiency while in the weightless state were judged by the ability to perform simple and complex tasks, all of which were carried out satisfactorily. The disturbance of vestibular

Card 1/2

Weightlessness

30888
S/025/61/000/011/002/003
D243/D302

function caused certain unpleasant symptoms which were diminished by ceasing abrupt movements. The comments of Professor V.I. Yazdovskiy are quoted twice. There are 5 figures.

ASSOCIATION: Akademiya nauk SSSR (Academy of Sciences, USSR)

Card 2/2

X

PHASE I BOOK EXPLOITATION

SOV/6103

Gerd, Mariya Aleksandrovna, and Nikolay Nikolayevich Gurovskiy

Pervyye kosmonavty i pervyye razvedchiki kosmosa (First Cosmonauts and First Explorers of Space). Moscow, Izd-vo AN SSSR, 1962. 196 p. illus., plates.
(Seriya: Akademiya nauk SSSR. Nauchno-populyarnaya seriya)

Resp. Ed.: V. I. Yazdovskiy, Professor; Ed. of Publishing House: N. V. Yashkova; Tech. Ed.: A. P. Guseva.

PURPOSE: The book is intended for the general reader.

COVERAGE: The book deals with Soviet achievements in the space flight of animals and man.

TABLE OF CONTENTS [Summarized]: The book begins with a note from the editor and a foreword (pp. 3-12). The first and second parts of the book

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First Cosmonauts (Cont.)

SOV/6103

(pp. 13-122) contain information on the selection, preparation, training, and space flight of dogs. The third part (pp. 123-197) gives information on the selection and training of Soviet cosmonauts, and includes some scientific data obtained from the space flights of Gagarin and Titov.

AVAILABLE: Library of Congress

SUBJECT: Aerospace

Card 2/2

AD/dk/jk

11-8-62

ACCESSION NR: AT4042668

S/0000/63/000/000/0126/0131

AUTHOR: Gerd, M. A.

TITLE: Human behavior and function during adynamia

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963.
Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy konferentsii. Moscow, 1963, 126-131

TOPIC TAGS: hypokinesia, adynamia, confinement, spaceship cabin, adynamia effect, human behavior, biochemistry, tissue trophism, proprioceptive impulsion

ABSTRACT: Subjects 20--22 years old were exposed to conditions of adynamia and confinement in simulated Vostok cabins. The duration of the investigations was 2, 5, 7, and 10 days. A record of movements made by subjects was kept and their relative disposition observed. The results of the investigation suggest that prolonged periods of adynamia (10 days) lead to variations in biochemistry, muscle tissue trophism, the character of proprioceptive impulsion, and finally, conditioned and unconditioned innervation of muscle complexes. The necessity to move reflects the organism's need to perform normal functional tasks. This was indicat-

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ed by subjects who showed an increasing desire to move about as the duration of adynamia increased. Expressions of adynamia were apathy, poor disposition, and depression. However, the authors feel that man can tolerate adynamia for periods as long as 10 days without producing irreversible deleterious changes.

ASSOCIATION: none

SUBMITTED: 278ep63

ENCL: 00

SUB CODE: L8

NO REF SOV: 000

OTHER: 00

Card 2/2

VASIL'YEV, P.V.; GERD, M.A. (Moskva)

Effect of acceleration on the higher nervous activity of dogs.
Pat. fiziol. i eksp. terap. 8 no.6:3-7 N-D '64.

(MIRA 18:6)

GURCHVSKIY, N., kand. med. nauk; GIRD, H., kand. biolog. nauk

"Lost weight". Kryn. rod. 15 no.9:22-23 S '64.

(GIRD 18:1)

L 27226-66 EEC(k)-2/EWT(1)/EWA(d)/FSS-2 TT/DD/RD/GW

ACC NR: AM6003010

Monograph

UR/1

Gard, Mariya Aleksandrovna; Gurovskiy, Nikolay Nikolayevich

65

B+1

First cosmonauts and first explorers of space (Parvyye kosmonavty i parvyye razvedchiki kosmosa) 2d ed., enl. Moscow, Izd-vo "Nauka," 1965. 237 p. 40,000 copies printed.

Series note: Akademiya nauk SSSR. Nauchno-populyarnaya seriya

TOPIC TAGS: space program, bioastronautics, space biology, space biologic experiment, manned space flight, space physiology, cosmonaut training

PURPOSE AND COVERAGE: This book is intended to inform the reader about biomedical experiments conducted by the Soviet space scientists. It describes, in a popular form, all basic experiments conducted on animals in order to prepare them for space flight. The objective of the research was to provide cosmonauts with the most suitable space-flight environment and to obtain data on their physiological functions and psychological reactions. Selection criteria and training procedures designed for the cosmonauts are considered, and some biomedical data from the Vostok and Voskhod-1 space flights are evaluated.

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Card 4/4 SUB CODE: 06/ SUM DATE: 06Jul65

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L 17998-66 RFR(1) GCTB DD

ACC NR: AP6007991

(N)

SOURCE CODE: UR/0391/66/000/003/0054/0054

AUTHOR: Vanyushina, Yu. V. (Moscow); Gerd, M. A. (Moscow); Lavrenchik, Ye. I. (Moscow); Panferova, N. Ya. (Moscow)

QEG: none

TITLE: Some functional shifts in the human organism during brief hypodynamia

SOURCE: Gigiyena truda i professional'nyye zabolevaniye, no. 3, 1966, 54

TOPIC TAGS: hypodynamia, immobilization, cardiovascular system, dynamometer, muscle tone

ABSTRACT: Functional shifts in the cardiovascular, muscular, and central nervous systems of 4 men immobilized for 2 1/2 hr were the subject of this study. A variety of indices were used: pulse rate, systolic pressure while resting and after tests, maximum force exerted on a wrist dynamometer, time in which the bulb of a liquid dynamometer was pressed with half maximum force, and the tone of some hand and foot muscles (determined with a spring myotonometer). The degree of coordination of arm movements and the tremor of an outstretched right hand were measured with a modified "Hede" instrument. In addition, the latent period of the visual motor reaction to a light signal was determined. Tests were conducted before and after the experiment, and 1 1/2 hr after the beginning for tests requiring no significant movement or exertion. Experimental results showed that after a brief stay in conditions of limited

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UDC: 613.65

L 17998-66

ACC NR: AP6007991

mobility the adaptability to active work decreased. The measured strength of wrist muscles dropped, there was a decrease in the tone of hand and foot muscles, reactions to light and word signals were delayed, and cardiovascular indices worsened during measured loads. During the transition from limited mobility to activity, when rapid reactions and physical exertion are required, gymnastics or other toners must be prescribed to decrease the unfavorable effect of limited mobility on the human organism. [JS]

SUB CODE: 06/ SUBM DATE: 15Jul63/ ATD PRESS: 4213

Card

272

ACC NR: AP6032013

SOURCE CODE: UR/0245/00/000/005/007/000

AUTHOR: Gerd, A. A. (Moscow); Panferova, N. Ye. (Moscow)

ORG: none

TITLE: Change in some human mental functions in connection with restriction of muscular activity

SOURCE: Voprosy psikhologii, no. 5, 1966, 72-82

TOPIC TAGS: human physiology, psychophysiology, psychologic stress, isolation test

ABSTRACT: The effect of prolonged (1 1/2—11 days) restriction of muscular activity on human mental functions was studied. Healthy male subjects 22—25 yr old were kept for varying periods in a special chair designed to bend the joints and weaken muscles, or in a capron net in water. Severe sensory deprivation was prevented by permitting subjects to watch TV, listen to music or radio, visit with friends, or talk to test personnel. Books and newspapers were read to them. Detailed descriptions are given of tests conducted to determine skin and proprioceptor sensitivity, muscular sensation, coordination, change in the speed of the visual motor reaction, ability to judge time intervals, and attention span. In addition, subjects were given a free-association test and a multiplication exercise, were required to recount book excerpts read to them during the experiment, and were tested for ability to analyze and associate complex ideas using pictograms. Subjects were periodically

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ACC NR: AP60320-3

questioned to determine their frame of mind and attitude. Differences in behavior were noted between subjects in the chair and in water. After 1-3 days, subjects in the chair were obsessed by the desire to move and complained of fatigue, numbing of muscles, and pain in the joints. Although subjects in water scarcely moved, they did not complain of lack of muscular activity. Experimental results showed that limitation of muscular activity is accompanied by a decrease in both elementary and complex mental functions. The sensitivity of both tactile and proprioceptive analyzers was lowered. The ability to estimate time intervals was hampered, and the time required to perform a given movement increased. Reproduction of images, word associations, and ideas was hindered and reactions became more primitive. The time required to solve problems increased, although the number of errors remained the same or even decreased. Subjects had a negative reaction to various types of intellectual work; some showed apathy and indications of disrupted emotional balance. The nature of changes in both physiological and psychic functions, their identical direction, and the large number of functions involved all indicate disruption of CNS function. It was concluded that inhibitory processes predominate in the central nervous system during prolonged restriction of muscular activity. These data support the assumption that continuing muscular activity is a necessary positive influence on human mental activity. Orig. art. has: 3 figures. [JS]

SUB CODE: 05, 06/ SUBM DATE: none/ ORIG REF: 009/ OTH REF: 003/ ATD PRESS: 5092

Card 2/2

I 11385-67 BMT(1) SGTB DD/QD
ACC NR: AT6036513

SOURCE CODE: UR/0000/66/000/000/0088/0089

29

AUTHOR: Vanyushina, Yu. V.; Cord, M. A.; Panferova, N. Ye.

ORGT: nqne

TITLE: Changes in some indices of the functional state of the human organism remaining for long periods in a semirecumbent posture [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 88-89

TOPIC TAGS: orthostatic test, hypodynamia, human physiology, space physiology, biologic metabolism, weightlessness simulation

ABSTRACT: Some human physiological indices were studied during prolonged stay in a semirecumbent posture, the most characteristic position for man in conditions of weightlessness. This posture was created experimentally by immersing subjects in water, or by immobilizing them in a special chair. Healthy men aged 20-23 participated in 21 experiments (9 water experiments and 12 in the chair), varying in length from 1.5 to 11.5 days. A number of physiological indices were recorded at two-hour intervals around the clock (except during sleep): pulse and respiration rates, blood pressure, and body temperature. Basal metabolism was measured by the Douglas-

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ACC NR: AT6036513

Holden method every morning upon awakening. The maximum strength and endurance of wrist muscles was determined periodically. Biological activity of human blood was determined every 2—3 days using an isolated frog heart.

Experimental results showed that pulse and respiration rates hardly changed throughout the experiment, whereas diastolic and systolic pressures declined progressively (systolic pressure dropped to 60—70 mm Hg.) The biological activity of the blood shifted in the direction of decrease in the chronotropic effect and increase in the inotropic effect. The basal metabolism rate dropped during the experiments, while the respiratory coefficient increased. Instead of body temperature dropping in the evening, in some cases it rose to subfebrile levels (up to 37.5° C)* Furthermore, the strength and endurance of wrist muscle decreased, especially in the right hand (decrease of 40—50%). Sleep was light, brief and frequently interrupted, and the subjects were irritable and grouchy. The pattern of the described changes was identical for both series of tests, however changes were more pronounced in the water tests.

Immediately after completion of the experiment, blood pressure, pulmonary circulation, basal metabolism, respiratory coefficient, and sleep returned to initial levels. In addition, the pulse rate increased.

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L 11385-57

ACC NR: AT6036513

However, the remaining functions had not normalized within 3--5 days. It was concluded that prolonged stay of man in a semirecumbent position results in fundamental alteration in functional systems, in some cases accompanied by shifts of a neurotic character, such as increased body temperature at night, the occurrence of subfebrile temperature, disruption of sleep, irritability, and bad moods. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Cord 3/3 egk

Gerd, S. V.

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SO: 044300, 12 August 53, (Date is 'Zhurnal' 'nykh Stroy', No 21, 1949).

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Yashil'kul', Lake - Plankton

Contributions to the study of the benthos of Lake Yashil'kul'. Uch. zap. Kar. Fin. un.
3 No. 3 1948.

Monthly List of Russian Accessions, Library of Congress, October 1952. UNCLASSIFIED.

21612 GERD, S. V. Zoogeograficheskiye problemy issledeniya ozer Karolii.
(Tesisy doklada) Trudy Vtorogo Vsesoyuz. geogr. s"yezda, T. St. M.,
1949, s. 214.

SO: Letopis' Zhurnal'nykh Statey, No. 19, Moskva, 1949

1. GORD, S. V.
2. USSR (600)
4. Karelia-Fish Culture
7. Ways of raising the food supply in Karelian lakes. Izv. Kar.-fin. fil. AN SSSR no. 1, 1951

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

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~~Principles of bionomic mapping of lakes. Trudy probl.1 tem.sov.no.1:~~

Principles of bionomic mapping of lakes. Trudy probl.1 tem.sov.no.1:
131-134 '51. (Fresh-water biology) (MIRA 9:7)

GERD, S.V.

Results of a quantitative calculation of the fauna of a stony coastal
region. Trudy probl.i tem.sov.no.1:135-138 '51. (MLRA 9:7)
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GERD, S.V.

Gerd, S. V. Zhivite zhivotni v uchilisheteto; opiti i nabliudeniia po zoologiya za VI i VII klas, posobie za uchiteli ot srednite uchilishta. Prevede ot 2. prer. izd. 3. Prodvurzachov. Sofiya (Narodna prosveta) 1952. 226p. (Live animals in the school; a textbook of zoology. Tr. from the Russian)

SO: Monthly List of East European Accessions, L.C. Vol. 3, No. 1 Jan. '54 Uncl.

GERD, J.V.

GERD, S.V.; NATAROVA, N.V., redaktor; MAKHUSHIN, V.A., tekhnicheskiy redaktor.

[Aquarium in the school; manual for secondary school teachers]
Akvarium v shkole; posobie dlia uchitelei srednei shkoly. Moskva,
Gos. nauchno-pedagog. izd-vo, 1953. 250 p. (MLRA 7:8)
(Fresh-water biology—Study and teaching)

GERD, S.V.; NATAROVA, N.V., redaktor; GURDZHIYEVA, A.M., tekhnicheskoy redaktor.

[Live animals in school; experiments and observations in zoology in classes 6 - 7 (a teacher's manual)] Zhivye zhivotnye v shkole; opyty i nabludeniia po zoologii v VI i VII klassakh. Posobie dlia uchitelia. Izd. 3-e, perer. Leningrad, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1954. 367 p. (MLRA 8:3)
(Zoology—Study and teaching)

GERD, S.V.

~~XXXXXXXXXXXX~~

Biocoenosis of the lower littoral zone of lakes in Karelia and its
significance in supplying food for fishes. Trudy i tem. soveshch.
no.2:161-171 '54. (MLRA 8:5)
(Karelia--Fishes--Food)

GERD, S.V., doktor biologicheskikh nauk.

Tasks in the acclimatization of crustaceans in lakes of the
northwest. Trudy sov.Ikht.kom. no.3:159-164 '54. (MLRA 7:8)

1. Leningradskiy pedagogicheskii institut imeni A.I.Gertsena.
(Crustacea)

GERD, S. V.

USSR/Biology - Botany

Card 1/1 : Pub. No - 35/40

Authors : Gerd, S. V.

Title : Sphere-shaped cladophora in lake Cheremenets

Periodical : Priroda 43/4, page 118, Apr 1954

Abstract : An account is given of the finding of specimens of a sphere-shaped, green, velvety alga (*Cladophora sauteri*) in lake Cheremenets in the Leningrad district. This alga was previously not known to exist in that part of the Soviet Union.
Illustration.

Institution : Leningrad pedagogicheskiy institut im. A. I. Gertsena.

Submitted :

GERD, S.V.

BOROVITSKIY, Pavel Illarionovich; VINDNICHENKO, Pavel Fedorovich; KRAMAROV, Dmitriy Yakovlevich; TULYAKOVA, Glafira Mikhaylovna; YAKOVIEVA, Olga Sergeyevna; GERD, S.V., redaktor; KIRNARSKAYA, A.A., tekhnicheskiy redaktor

[Methods of teaching natural history] Metodika prepodavaniia estestvoznaniia. Pod obshchey red. P.I. Borovitskogo. Leningrad, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, Leningradskoe otd-nie, 1955. 607 p. (MIRA 8:6)
(Natural history—Study and teaching)

USSR/General Division - Problems of Teaching.

A-7

Abs Jour : REF Zhur - Biologiya, No 7, 10 April 1957, 25/96

Author : Gerd, S.V.

Inst : Leningrad State Teachers Institute.

Title : The Importance of the Vivarium in Teacher Training
Institutions in the Preparation of Secondary Polytech-
nical School Biology Instructors.

Orig Pub : Uch. zap. Leningr. gos. ped. in-ta, 1955, 3, 58-60

Abst : Caring for a vivarium should become part of the practical training of students in departments of zoology, botany and experimental natural science. Student should service the vivarium themselves, take care of the plants and animals therein, clean the premises, guide visitors, and supervise club activities should be transferred to the agricultural-biological station of the institute.

Card 1/1

POKROVSKAYA, I.V.; GERD, S.V.

Use of aquatic invertebrates by forest birds in feeding their
nestlings. Uch.zap.Ped.inst.Gerts.110:93-102 '55.(MIRA 9:7)
(Birds--Food)